Maryland
Transportation
Authority

Martin O'Malley
Governor

Anthony Brown
Lt. Governor

Beverley Swaim-Staley
Chairman

Peter J. Basso
Rev. Dr. William C. Calhoun, Sr.
Mary Beyer Halsey
Louise P. Hoblitzell
Richard C. Mike Lewin
Isaac H. Marks, Sr., Esq.
Michael J. Whitson
Walter E. Woodford, Jr., P.E.

Ronald L. Freeland
Executive Secretary

Geoffrey V. Kolberg, P.E.
Chief Engineer

Engineering Division
300 Authority Drive
Baltimore MD 21222-2200
410-537-7800
410-537-7801 (fax)

Construction Division
304 Authority Drive
Baltimore MD 21222-2200
410-537-7888
410-537-7802 (fax)

410-355-7024 (TTY)
1-888-754-0098

e-mail: mdtaengineer@
mdtransportation
authority.com

www.mdtransportation
authority.com

March 12, 2010

TO ALL PURCHASERS OF CONTRACT DOCUMENTS:

Contract No. BB 2042-000-002
Bay Bridge Facilities Fuel Tank Replacement
William Preston Lane, Jr. Memorial Bridge
Anne Arundel County

ADDENDUM NO. 4

To Whom It May Concern:

It is important that you acknowledge receipt of this Addendum No.4 on the referenced contract regardless if you will be bidding or not bidding.

Very truly yours,

Linda McGill
Chief Procurement Officer

Enclosures

Contract No. **BB- 2042-000-002**

This will acknowledge receipt of the attached Addendum No. 4.

_____
NAME OF COMPANY

_____ _____
SIGNATURE DATE

THIS SIGNED ADDENDUM ACKNOWLEDGEMENT PAGE SHALL BE RETURNED TO THIS OFFICE VIA **FAX AT 410-537-7801,** ATTENTION: MAGGIE JOHNSON PRIOR TO THE BID OPENING DATE.

IN ADDITION, THIS SIGNED ADDENDUM ACKNOWLEDGEMENT PAGE MUST BE ATTACHED TO THE OUTSIDE COVER OF THE BID BOOK. FAILURE TO DO SO MAY RESULT IN REJECTION OF YOUR BID.

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300 Authority Drive
Baltimore MD 21222-2200
410-537-7806
410-537-7803 (fax)

Construction Division
304 Authority Drive
Baltimore MD 21222-2200
410-537-7888
410-537-7802 (fax)

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March 12, 2010

TO ALL PURCHASERS OF CONTRACT DOCUMENTS:

Contract No. BB 2042-000-002
Bay Bridge Facilities Fuel Tank Replacement
William Preston Lane, Jr. Memorial Bridge
Anne Arundel County

ADDENDUM NO. 4

To Whom It May Concern:

Note that the bids are still due at 12 noon, March 30, 2010.

I. The following changes have been made to the Invitation for Bids book:

A. Remove pages 1, 53, 89, 90, 93-96, 98, 106B, 106C, 106E-106L and 226, and, replace them with attached pages numbered the same, with the notation Addendum No. 4, March 12, 2010.

B. Insert new pages 98A and 106L1 attached herein, with the notation Addendum No. 4, March 12, 2010.

II. Attached herein, are responses to questions received on March 4th, 2010 and March 9th, 2010.

Very truly yours,

Linda McGill
Chief Procurement Officer

THE SIGNED ADDENDUM ACKNOWLEDGEMENT PAGE MUST BE ATTACHED TO THE OUTSIDE COVER OF THE BID BOOK. FAILURE TO DO SO MAY RESULT IN REJECTION OF YOUR BID.

MDTA Contract No. BB-2042-000-002
Addendum No. 4

The following request for information was emailed to MDTA on Thursday, March 4, 2010 by Mr. Jay Wiedel, Area Manager, Containment Solutions, Inc.

Question: I am following up again regarding the above MDTA Project (BB-2042-000-002). We are in receipt of the addendum #2 dated February 24, 2010. In the addendum you reference two new concrete Vaulted UL2085 manufacturers in lue of the specified Convault system as approved alternates. Again, we feel that this is a proprietary specification as the two added tanks do not meet the specification as written. The way the specification is worded only the Convault tank system will be approved and sole sourced. Containment Solutions UL2085 Vaulted tanks systems and the STI Steel tank institute Fireguard UL2085 Tank system meet and exceed the specification as written. Both manufacturers have provided tanks to the many Maryland state agencies in the past. A list of these current operating locations can be provided in detail if needed.

Please refer to specification section 1000 Part 2- materials A. 1.3. and 9. This section calls for the tanks to be monolithic poured concrete vaulted tanks with no seams or joints. Both of the added tanks to the addendum Armor Cast and Colorado Precast are not monolithic poured tanks and indeed have joints that do not meet the specification. Their information is clearly noted on their individual web pages at www.amorfueltank.com and www.coloprecast.com .

I have attached a comparison chart for you to review that clearly points out that the UL2085 system manufactured by Containment Solutions exceeds the specification as written.

We have made repeated attempts to provide detailed information to the state with regard to this specification. We are requesting a meeting with the engineering department at the Maryland Transportation Authority prior to the bid opening to present in detail our products and services.

We have had several requests from many of the contractors bidding this project to supply pricing to them. We feel that in the competitive nature of this market and the current state of the economy that it is wrong to only allow one true vendor to participate in a state funded project of this size.

Please feel free to review all of the attached information and web pages. I welcome any comments and look forward to any replies.

Response: MDTA contacted Mr. Wiedel on Monday March 8, 2010 to address the above correspondence. Mr. Wiedel acknowledged that he was inadvertently responding to Addendum No. 2 from a different MDTA contract. He has since received Addendum No. 2 for BB-2042-000-002 and stated that the revised addendum addresses some of his concerns. We informed him that an additional addendum (Addendum No. 4) would be issued to address the concern with Section 1000 Part 2 Materials A. 1.3. and 9, described above.

MDTA Contract No. BB-2042-000-002
Addendum No. 4

MDTA was contacted on Tuesday, March 9, 2010 by Ms. Kathee Smith, Clean Earth, Inc. for the following request for information:

Question: Are there any contaminated soils in this project, or might there be?

Response: The existence of contaminated soil in the project is unknown. The bidder will offer a unit price per cubic yard of excavation and removal of contaminated soil based on the estimated quantities shown on the bid form. This quantity was estimated by assuming about one foot of contaminated soil around the underground tanks that will be removed. The Contractor will be paid for the actual contaminated soil excavated and removed from the project. Refer to the Standard Specifications for Construction and Materials (issued July 2008) Section GP-4.04 for variation in estimated quantities.

SP 1-1 PROJECT DESCRIPTION

CONTRACT NO.:	BB 2042-000-002
TITLE:	Bay Bridge Facilities Fuel Tank Replacements
FACILITY:	William Preston Lane Jr., Memorial Bridge (US 50 / US 301)
LOCATION:	Anne Arundel County
ADVERTISED:	**January 19, 2010**
PRE-BID MEETING:	9:30 a.m. on February 3, 2010 in the Conference Room at the Maryland Transportation Authority, 300 Authority Drive, 1st Floor, Engineering Building, Baltimore, MD 21222
PROJECT CONTACT:	Project Manager: Mr. Doug Novocin (410)-537-7840 Contract Administration: Ms. Maggie Johnson (410)-537-7807
BIDS DUE:	**12:00 Noon on March 30, 2010** in the Bid Box on the 1st floor of the Maryland Transportation Authority, Engineering Building, 300 Authority Drive, Baltimore, MD 21222
CLASSIFICATION:	Class C ($500,001 – $1,000,000)
CONTRACT TIME:	One Hundred and Eighty (180) Calendar Days
LIQUIDATED DAMAGES:	**$300.00 per Calendar Day**
MINIMUM MBE GOALS:	25% Overall
BID DOCUMENTS:	**$60.00** - Bid documents can be purchased between 7:30 a.m. and 3:30 p.m., Mondays, Wednesdays, Thursdays and Fridays and between 10:00 a.m. and 4:00 p.m. on Tuesdays at the Ticket Office located at the Francis Scott Key Bridge, Maryland Transportation Authority, Administration Building, 303 Authority Drive, Baltimore, MD 21222.

CATEGORY 300
DRAINAGE

SECTION 316 – PREFABRICATED TRENCH DRAINS

316.01 DESCRIPTION. Construct prefabricated trench drains and connecting pipe drains.

316.02 MATERIALS.

316.02.01 Trench Drain. Prefabricated modular polyester polymer concrete or ductile iron channels with a nominal width of 6 inches. Channels shall be interlocking and sloped to provide a minimum of 0.5% slope. The channel shape shall be U bottom and include exterior ribs or anchors for concrete embedment. Trench Drain shall be suitable for AASHTO HS-20 wheel loads. Product shall be PolyDrain by ABT, Inc. or equal.

316.02.02 Trench Grates and Frames. Modular ductile iron manufactured by the same manufacturer as the trench drain channel. Grates and frames shall be bolted to the channel and suitable for AASHTO HS-20 wheel loads.

316.02.03 Connecting Pipe. PVC Schedule 40

316.02.04 Joint Sealant. Permanent and suitable for water, ethanol, oil, and gasoline contact.

316.02.05 Bedding Concrete. See Section 520

316.03 CONSTRUCTION. Install prefabricated trench drains according to the manufacturer's recommendations. Provide bedding concrete so that there is a minimum of 4-inches of concrete under the channel and on all sides. Provide expansion joints to protect the trench drain from the expansion and contraction of the adjacent concrete slabs.

316.03.01 Drain Connectors and Adaptors. Provide PVC connectors and adaptors as necessary to connect trench drains to outfall system. Provide a minimum of 0.5% slope on all drains.

316.04 MEASUREMENT AND PAYMENT. The payment will be full compensation of excavation, backfill, compaction, formwork, bedding concrete, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

316.04.01 Prefabricated Trench Drains will be measured and paid for at the Contract unit price per linear foot.

SECTION 1000
EQUIPMENT

SECTION 1002 – FUEL STORAGE AND DISPENSING EQUIPMENT

Part 1 - DESCRIPTION

This and the two Sections following this Section specify the fuel storage and dispensing equipment. There are two options provided for the provision and installation the equipment following this Section:

Section 1002A for Concrete Vaulted System Alternate and,
Section 1002B for Double Walled Steel Tank System Alternate.

The Contractor shall choose either Section 1002A or Section 1002B for this contract. The alternate chosen shall apply to all fuel storage and dispensing equipment under this contract.

SECTION 1000
EQUIPMENT

SECTION 1002A – FUEL STORAGE AND DISPENSING EQUIPMENT – CONCRETE VAULTED SYSTEM ALTERNATE

Part 1 - DESCRIPTION

A. SUMMARY

1. This Section specifies the concrete vault alternate for fuel dispensing equipment and is defined to include, but not necessarily be limited to:
   a. Provide a complete fuel dispensing equipment system at location indicated on the Contract Drawings;
   b. Acceptance testing;
   c. Training of the Maryland Transportation Authority (Authority) personnel; and
   d. Manufacturer's maintenance instructions for the system during the warranty period.

2. Provide concrete vaulted aboveground tank system approved for listing under U.L. Standard 2085, Aboveground Tanks, Protected Type, Secondary Containment with Vehicle Impact and Projectile Resistance. Unit must comply with all provisions of U.F.C. Articles 52 and 79, Appendix A-II-F and Appendix A-II-F-1 for "protected" aboveground tanks. The tank and its enclosure shall be a completed unit at the factory (shop fabricated). The tank system shall be tested, certified, and approved for Vapor Recovery by the California Air Resource Board (CARB) under executive order VR-302-B for standing loss control recovery system for new installations of aboveground storage tanks for gasoline and methanol effective November 30, 2009.
3. The work consists of providing one (1) 8,000 gallon steel, concrete encased aboveground storage tank (AST) fueling system split internally to two (2) compartments- 2,000 and 6,000 gallons- with factory-installed equipment and appurtenances as specified herein and as shown on the Contract Drawings. The tank system shall be manufactured and assembled by a single manufacturer. This item shall include all labor, equipment, materials, transport, mounting slab, hose fittings, and all other incidentals for providing in-place operational fuel dispensers as specified herein and as shown on the Contract Documents.
4. The work consists of providing one (1) 1,000 gallon steel, concrete encased AST fueling system with factory-installed equipment and appurtenances as specified herein and as shown on the Contract Drawings. The tank system shall be manufactured and assembled by a single manufacturer. This item shall include all labor, equipment, materials, transport, mounting slab, hose fittings, and all other incidentals for providing an in-place operational fuel dispenser as specified herein and as shown on the Contract Documents.
5. The work consists of providing one (1) 4,000 gallon steel, concrete encased AST and appurtenances as specified herein and as shown on the Contract Drawings. The tank system shall be manufactured and assembled by a single manufacturer. This item shall include all labor, equipment, materials, transport, mounting slab, pipe fittings, and all other incidentals for providing an in-place operational heating oil tank as specified herein and as shown on the Contract Documents.

a. Handbook 44-2007 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices.

2. OSHA: Occupation Safety and Health Act. 29 CFR 1956.

3. Petroleum Equipment Institute (PEI)
   a. PEI/RP200-03 Recommended Practice for Installation of Aboveground Storage Systems for Motor Vehicle Fueling.
   b. PEI/RP100-2000 Recommended Practice for Installation of Underground Liquid Storage Systems.

4. UFC: Uniform Fire Code, 2000 Edition.

5. Underwriters Laboratories, Inc. (UL)
   a. UL-79 Power Operated Pumps for Petroleum Dispensing Products.
   b. UL-87 Standard for Power-Operated Dispensing Devices for Petroleum Products.
   c. UL-142 Steel Aboveground Tanks for Flammable and Combustible Liquids.
   d. UL 353 Limit Controls.
   e. UL-467 Grounding and Bonding Equipment.
   f. UL-536 Standard for Flexible Metallic Hose.
   g. UL-842 Valves for Flammable Fluids.
   h. UL-568C Power Conversion Equipment.
   i. UL-971 Nonmetallic Underground Piping for Flammable Liquids.
   j. UL-2085 Protected Aboveground Tanks for Flammable and Combustible Liquids, Protected Type.
   k. UL-2244 Aboveground Flammable Liquid Tank Systems.

6. Latest edition of California Air Resources Board – CP-206, Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Aboveground Storage Tanks.

7. Applicable federal, state, and local codes and regulations.

C. QUALITY ASSURANCE

1. Work shall conform to federal, state, and local governing rules and regulations and ordinances, including OSHA and NFPA requirements, and shall pass inspection by the authorities having jurisdiction.

2. Work shall conform to current versions of locally adopted codes.

3. System Responsibility: Vested responsibility for designing, coordinating, and furnishing the system specified herein, and for initial operation is that of the tank manufacturer or of it qualified, factory authorized representative, herein referred to as the tank supplier.

D. SUBMITTALS

1. Submit shop drawings, catalog cuts, and manufacturer's data covering all equipment covered in this section. Submit the following for review and approval:
   a. *Shop drawings.*
   b. *Product data:* For each type of product indicated, include construction details, material descriptions, and dimensions of individual components and profiles. The intended use of each component that is listed should be included in the description portion of the submission. Also include, where applicable, rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
      1) *Piping specialties:* Include items such as bulkhead fittings, hose adaptors, swivel pipe adaptors, fill caps adaptor, drop tubes, tank vents, tank bottom protectors, etc.
      2) *Valves:* Include pressure rating, capacity, and electrical connection of selected model where applicable.
   c. *Design calculations.*
   d. *Installation instructions.*
   e. *Operations and maintenance manuals.*
   f. *Training program.*
   g. *Manufacturer's Written Warranty*
   h. *CARB certification*
   i. *UL certifications*

2. Submit pumping equipment manufacturer's certification that the equipment supplied meets or exceeds the requirements of the Contract Documents.

E. JOB CONDITIONS

1. The Contractor's equipment and proposed materials shall be at least of the same level of quality as that indicated and specified.

2. Work includes furnishing and installing of ASTs, submersible turbine pumps, suction piping, sumps, dispensers, liquid sensors, level probes, interstitial sensors, shut-off valves, check valves, separator-lubricator assemblies, distribution piping and fittings, fuel hose reel assemblies including support framing, control handles, meters, pump systems, and all other work and material to provide an approved working installation as specified and as shown in the Contract Documents.

3. The various component parts shall function together as a workable fuel dispensing system, complete with everything necessary for its operation and with all equipment properly adjusted and in working order. Unless otherwise specified, any materials described, shown, reasonably

implied, or obviously a part of the system and necessary to its complete finish and perfect operation shall be furnished and installed, without extra charge. The Contract Drawings and the Contract Specifications are intended to supplement each other, and any item set forth in either shall be recognized as the same as if fully set forth in both.

4. The Contractor shall be responsible for establishing all pipe sizes and materials, component locations, type and quantities, mounting requirements and hardware, equipment selection, and all other design parameters necessary to provide a complete operable fuel dispensing system as described in the Contract Documents.

5. Site Information: Subsurface conditions were investigated during the design of the project. Reports of these investigations are available for informational purposes only; data in reports are not intended as representations or warranties of accuracy or continuity of conditions (between soil borings). The Authority assumes no responsibility of interpretations or conclusions drawn from this information.

F. DELIVERY, STORAGE AND HANDLING

1. Delivery, storage and handling of all fuel dispensing system components shall be in accordance with manufacturer's written instructions.

G. WARRANTY

a. The Contractor shall guarantee its work, material, and equipment and the other Contract performances, and shall remedy, without cost to the Authority, any defects which may develop therein during a period of one year from the date of the Authority's acceptance of the project. The Contractor shall, at its expense, repair or replace any component or equipment that has malfunctioned or has become defective as a result of improper installation. The Contractor's corrective actions shall ensure continuance of the manufacturer's warranty to include recertifying to the manufacturer's requirements.

b. Provide tank manufacturer's 30-year Written Warranty for full protection against defects in materials and workmanship for both primary and secondary containments. Warranty to commence and be in full effect for the 30 year period upon delivery to the owner. Warranties that limit such coverage for shorter periods of time will not be permitted.

c. Provide dispenser manufacturer's 2-year warranty.

PART 2 - MATERIALS

A. ABOVEGROUND STORAGE TANKS

1. Provide one (1) 8,000 gallon concrete encased AST, one (1) 1,000 gallon concrete encased AST, and one (1) 4,000 gallon concrete encased AST as indicated on the Contract Drawings and specified herein. The gasoline and ethanol tanks (8,000 gal and 1,000 gal) shall be meet the CARB executive order VR-302-B for Vapor Recovery, Nov 30, 2009.

2. *Primary Tank:* The primary tank shall be rectangular in shape, constructed with a minimum of 10 gage thick carbon steel, listed in accordance with UL-2085. The 2-hour fire rating shall exceed all requirements of NFPA 30 and 30A for "fire resistant" tanks and meet the requirements of UFC Articles 52 and 79, Appendix II-F and Appendix Standard A-II-F-1 for "protected" aboveground tanks. The tanks shall comply with PIE/RP200-03.

3. *Concrete Encasement:* The concrete encasement shall be 6" thick with a minimum design strength of 4000 psi. Concrete enclosure shall encase and protect both the primary steel tank and the secondary containment. The concrete design shall include the following for long-term durability: less than 3% air entrainment, water-reducing admixture, and steel reinforcing bars. Concrete placement methods shall ensure the absence of voids on all sides and beneath the steel tank. An exterior steel jacket covering the concrete vault will NOT be permitted. The steel tank shall be prestressed at factory by pressurizing the primary steel tank to 5 psi during concrete encasement to allow for expansion and contraction of the primary steel tank. Vault enclosure shall have concrete support legs of unitized monolithic construction raising the concrete enclosure a minimum of 3" above the ground to meet visual inspection requirements. Joints are allowed if the tank manufacturer can demonstrate that particular joint system meets UL testing standards for leakage and fire resistance.A mid-level seam or other joint construction which could compromise the liquid tightness (secondary containment) and fire protection capability of the vault is not permitted.

4. *Fire Resistance:* The tank system shall be designed and tested to provide 2 hour fire protection for the primary tank as per U.L. 2085 2-hour furnace fire test and 2 hour simulated pool fire test. No steel members shall penetrate the walls or floor of the concrete encasement to assure isolation from pool fire heat.

5. *Thermal and Corrosion Protection:* The tank construction shall include thermal insulation equivalent to .25 inches of polystyrene to protect against temperature extremes, and to protect against corrosion by isolating the steel tank from the concrete or other corrosive material. All steel exterior to the concrete encasement shall be anti-oxidant powder coated to inhibit corrosion and meet A.S.T.M. B117.

6. *Secondary Containment with Leak Monitoring:* The tank system shall include an impervious barrier of 30 mil high-density polyethylene to contain leaks from the primary tank. A monitoring tube shall be located between the inner tank and secondary barrier.

7. *Fill Systems*: Two (2) tank fill systems shall be provided on the 8,000 gallon tank and one on the 1,000 gallon tank. Each system shall be side-mounted on the tank at locations as shown on the Contract Drawings. The fill connections shall be accessible from ground height without the need for stairs

5. Tank shall include 1 dispenser and one card reader.

c. 4,000 Gallon Tank Design Criteria:
   i. Total tank storage volume: 4,000 gallons.
   ii. Maximum tank dimensions: 8'-0-1/2" wide by 8'-9-3/4" high by 17'-7-1/2" long.
   iii. Tank's approximate weight: 48,000 pounds.
   iv. Tank shall be designed to store 4,000 gallons of heating oil.

Note: The fuel tank foundation slab design and dimensions shown on the Drawings are based on the tank dimensions and weights shown in Part 2. A. 14. a, b and c above. Other tank sizes and weights will be considered for approval by the Maryland Transportation Authority. If alternate tank sizes/weights are proposed by the successful Bidder, the foundation slab design may need to be modified to accommodate the tank size/weight. Following award of the construction contract, the successful Bidder shall submit shop drawings showing the necessary revisions to the slab foundation design, and other necessary changes, if any, signed by a registered PE in the State of Maryland, for approval by the Maryland Transportation Authority. All costs due to the approved revisions shall be the responsibility of the Contractor.

B. SUBMERSIBLE TURBINE FUEL PUMPS

1. *Pumps:*

a. Description: Provide a total of four (4) UL-listed ¾ hp submersible turbine pumps for the gasoline and diesel tank (one pump for each dispenser) and a single UL-listed 1/3 hp submersible turbine pump for the E-85 tank.
b. The entire pumping assemblies shall have UL listing and shall meet all requirements of UL-79. The entire pumping assembly for the E-85 fuel shall have UL listing for use with E-85 fuel.
c. Pumps shall be multi-stage, self-lubricating, and easily removed from tank without disconnecting discharge piping, mechanical or electronic leak detectors, or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.
d. Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
e. The motor assembly height shall be field adjustable utilizing a UL-listed telescoping shaft and set to a minimum of five (5) inches from the bottom of the tank.
f. Manifold head assembly shall consist of a manifold and extractable packer assembly and shall be completely sealed against product leakage into the ground and exterior water leakage into the storage tank. The discharge outlet shall be a standard 2-inch NPT opening. The manifold shall have a built-in air purge screw, line check valve, and pressure relief valve, and shall support dual vacuum sensor siphon systems.

g. The contractor's box shall be built into the manifold head assembly and be completely isolated from the fuel path. The extractable packer assembly shall incorporate a lifting eye for safe extraction of the pump motor.
h. The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed.
i. The pumps shall include an integral check valve and line leak detector to hold operating pressure at 30 psi to minimize loss of pressure due to thermal contraction. The line leak detector shall restrict fuel flow if line pressure is lost or line product loss exceeds 3.0 gph The check valve shall incorporate a feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to

(The remainder of this page is intentionally left blank)

SECTION 1000
EQUIPMENT

SECTION 1002B – FUEL STORAGE AND DISPENSING EQUIPMENT – DOUBLE WALLED STEEL TANK SYSTEM ALTERNATE

Part 1 - DESCRIPTION

A. SUMMARY

1. This Section specifies the steel tank alternate for fuel dispensing equipment and is defined to include, but not necessarily be limited to:
   a. Provide a complete fuel dispensing equipment system at location indicated on the Contract Drawings;
   b. Acceptance testing;
   c. Training of the Maryland Transportation Authority (Authority) personnel; and
   d. Manufacturer's maintenance instructions for the system during the warranty period.

2. Provide aboveground double walled steel tank system approved for listing under U.L. Standard 2085, Aboveground Tanks, Protected Type, Secondary Containment with Vehicle Impact and Projectile Resistance. Unit must comply with all provisions of U.F.C. Articles 52 and 79, Appendix A-II-F and Appendix A-II-F-1 for "protected" aboveground tanks. The tank and its enclosure shall be a completed unit at the factory (shop fabricated). The tank system shall be tested, certified, and approved for Vapor Recovery by the California Air Resource Board (CARB) under executive order VR-302-B for standing loss control recovery system for new installations of aboveground storage tanks for gasoline and methanol effective November 30, 2009.

3. The work consists of providing one (1) 8,000 gallon double walled – steel aboveground storage tank (AST) fueling system split internally to two (2) compartments- 2,000 and 6,000 gallons- with factory-installed equipment and appurtenances as specified herein and as shown on the Contract Drawings. The tank system shall be manufactured and assembled by a single manufacturer. This item shall include all labor, equipment, materials, transport, mounting slab, hose fittings, and all other incidentals for providing in-place operational fuel dispensers as specified herein and as shown on the Contract Documents.

4. The work consists of providing one (1) 1,000 gallon double walled steel AST fueling system with factory-installed equipment and appurtenances as specified herein and as shown on the Contract Drawings. The tank system shall be manufactured and assembled by a single manufacturer. This item shall include all labor, equipment, materials, transport, mounting slab, hose fittings, and all other incidentals for providing an in-place operational fuel dispenser as specified herein and as shown on the Contract Documents.

5. The work consists of providing one (1) 4,000 gallon double walled steel (AST) and appurtenances as specified herein and as shown on the Contract Drawings. The tank system shall be manufactured and assembled by a single manufacturer. This item shall include all labor, equipment, materials, transport, mounting slab, pipe fittings, and all other incidentals for providing an in-place operational heating oil tank as specified herein and as shown on the Contract Documents.

6. The work consists of providing four (4) submersible pumps in the new 8,000 gallon AST, one (1) submersible pump in the proposed 1,000 gallon AST, and five (5) dispensers as follows: diesel fuel (two - 2), unleaded gasoline (two – 2) and E-85 (one – 1). This item shall include all labor, equipment, materials, transport, mounting slab, hose fittings, sumps, liquid sensors, and all other incidentals for providing in-place operational fuel dispensers as specified herein and as shown on the Contract Documents.

7. The work consists of providing above ground piping for the heating oil system (4,000 gallon AST).

8. Provide where shown on the Contract Drawings all equipment, as specified, complete and ready for safe operation. Each item shall be specifically designed for the intended function. Provide necessary accessories, items of equipment, mechanical, electrical, and structural items, whether specified or not in order to provide properly installed and functional equipment.

9. Equipment shall be suitable for installation in the space indicated on the Contract Drawings. Any modification or redesign to the existing structure or utilities required in connection with of an alternate equipment selection by the Contractor shall be provided by the Contractor at no additional cost to the Authority and shall be as approved by the Engineer.

10. The MdTA will provide fuel for the new tanks at no cost to the Contactor. Coordinate delivery of unleaded gasoline, E85 and diesel fuel with Owner.

11. The new 8,000 Gallon gasoline and diesel fuel tanks and dispensing equipment at the Police Facility (Site 1) shall be complete and operable prior to removing the existing gasoline and diesel fueling facility at the Administration Facility (Site 2).

12. Fuel management system including card readers to control and provide accurate accounting of fuel dispensed.

13. Miscellaneous fuel specialties and accessories including fuel depot safety signs, fire extinguisher, wash bucket and paper towel holder, steel drum trash can and spill containment kit.

B. References

1. American National Standards Institute (ANSI)
   a. ANSI/ASME A13.1 Scheme for the Identification of Piping Systems.
   b. ANSI/ASME B1.20.1 Pipe Threads, General Purpose (inch).
   c. ANSI/ASME B16.10 Face-to-Face and End-to-End Dimensions of Valves.

e. NFPA 704 Standard System for the Identification of Hazards of Materials for Emergency Response.
f. NFPA 780 Standard for the Installation of Lightning Protection Systems.

10. National Institute of Standards and Technology.
    a. Handbook 44-2007 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices.

11. OSHA: Occupation Safety and Health Act. 29 CFR 1956.

12. Petroleum Equipment Institute (PEI)
    a. PEI/RP200-03 Recommended Practice for Installation of Aboveground Storage Systems for Motor Vehicle Fueling.
    b. PEI/RP100-2000 Recommended Practice for Installation of Underground Liquid Storage Systems.

13. UFC: Uniform Fire Code, 2000 Edition.

14. Underwriters Laboratories, Inc. (UL)
    a. UL-79 Power Operated Pumps for Petroleum Dispensing Products.
    b. UL-87 Standard for Power-Operated Dispensing Devices for Petroleum Products.
    c. UL-142 Steel Aboveground Tanks for Flammable and Combustible Liquids.
    d. UL 353 Limit Controls.
    e. UL-467 Grounding and Bonding Equipment.
    f. UL-536 Standard for Flexible Metallic Hose.
    g. UL-842 Valves for Flammable Fluids.
    h. UL-568C Power Conversion Equipment.
    i. UL-971 Nonmetallic Underground Piping for Flammable Liquids.
    j. UL-2085 Protected Aboveground Tanks for Flammable and Combustible Liquids, Protected Type.
    k. UL-2244 Aboveground Flammable Liquid Tank Systems.

15. Latest Edition of California Air Resources Board – CP-206, Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Aboveground Storage Tanks.

16. Applicable federal, state, and local codes and regulations.

C. QUALITY ASSURANCE

1. Work shall conform to federal, state, and local governing rules and regulations and ordinances, including OSHA and NFPA requirements, and shall pass inspection by the authorities having jurisdiction.

2. Work shall conform to current versions of locally adopted codes.

3. System Responsibility: Vested responsibility for designing, coordinating, and furnishing the system specified herein, and for initial operation is that of the tank manufacturer or of it qualified, factory authorized representative, herein referred to as the tank supplier.

D. SUBMITTALS

1. Submit shop drawings, catalog cuts, and manufacturer's data covering all equipment covered in this section. Submit the following for review and approval:
   a. *Shop drawings.*
   b. *Product data:* For each type of product indicated, include construction details, material descriptions, and dimensions of individual components and profiles. The intended use of each component that is listed should be included in the description portion of the submission. Also include, where applicable, rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
      i. *Piping specialties:* Include items such as bulkhead fittings, hose adaptors, swivel pipe adaptors, fill caps adaptor, drop tubes, tank vents, tank bottom protectors, etc.
      ii. *Valves:* Include pressure rating, capacity, and electrical connection of selected model where applicable.
   c. *Design calculations.*
   d. *Installation instructions.*
   e. *Operations and maintenance manuals.*
   f. *Training program.*
   g. *Manufacturer's Written Warranty*
   h. *CARB certification*
   i. *UL certifications*

2. Submit pumping equipment manufacturer's certification that the equipment supplied meets or exceeds the requirements of the Contract Documents.

E. JOB CONDITIONS

1. The Contractor's equipment and proposed materials shall be at least of the same level of quality as that indicated and specified.

2. Work includes furnishing and installing of ASTs, submersible turbine pumps, suction piping, sumps, dispensers, liquid sensors, level probes, interstitial sensors, shut-off valves, check valves, separator-lubricator assemblies, distribution piping and fittings, fuel hose reel assemblies including support framing, control handles, meters, pump systems, and all other work and material to provide an approved working installation as specified and as shown in the Contract Documents.

3. The various component parts shall function together as a workable fuel dispensing system, complete with everything necessary for its operation and with all equipment properly adjusted and in working order. Unless otherwise specified, any materials described, shown, reasonably

implied, or obviously a part of the system and necessary to its complete finish and perfect operation shall be furnished and installed, without extra charge. The Contract Drawings and the Contract Specifications are intended to supplement each other, and any item set forth in either shall be recognized as the same as if fully set forth in both.

4. The Contractor shall be responsible for establishing all pipe sizes and materials, component locations, type and quantities, mounting requirements and hardware, equipment selection, and all other design parameters necessary to provide a complete operable fuel dispensing system as described in the Contract Documents.

5. Site Information: Subsurface conditions were investigated during the design of the project. Reports of these investigations are available for informational purposes only; data in reports are not intended as representations or warranties of accuracy continuity or conditions (between soil borings). The Authority assumes no responsibility of interpretations or conclusions drawn from this information.

F. DELIVERY, STORAGE AND HANDLING

1. Delivery, storage and handling of all fuel dispensing system components shall be in accordance with manufacturer's written instructions.

G. WARRANTY

1. The Contractor shall guarantee its work, material, and equipment and the other Contract performances, and shall remedy, without cost to the Authority, any defects which may develop therein during a period of one year from the date of the Authority's acceptance of the project. The Contractor shall, at its expense, repair or replace any component or equipment that has malfunctioned or has become defective as a result of improper installation. The Contractor's corrective actions shall ensure continuance of the manufacturer's warranty to include recertifying to the manufacturer's requirements.
2. Provide tank manufacturer's 30-year Written Warranty for full protection against defects in materials and workmanship for both primary and secondary containments. Warranty to commence and be in full effect for the 30 year period upon delivery to the owner. Warranties that limit such coverage for shorter periods of time will not be permitted.

3. Provide dispenser manufacturer's 2-year warranty.

PART 2 - MATERIALS

A. ABOVEGROUND STORAGE TANKS

1. *General*:

   Provide one (1) 8,000 gallon double-wall two-compartment AST, one (1) 1,000 gallon double-wall AST, and one (1) 4,000 gallon double-wall AST as indicated on the Contract Drawings and specified herein. The gasoline and ethanol tanks (8,000 gal and 1,000 gal) shall be meet the CARB executive order VR-302-B for Vapor Recovery, Nov 30, 2009.

2. *Primary Storage Tank*:
   a. The primary storage tanks shall be constructed of UL-specified steel thickness, with continuous welds.
   b. The primary storage tanks shall be constructed of ASTM A-1011 or A-36 carbon steel.
   c. The primary tanks shall be fitted with female NPT fittings as specified herein.
   d. The 8,000 gallon primary tank shall include two (2) separate compartments (6,000 and 2,000 gallons) with the following fittings in each compartment:
      1) One (1) 4-inch port for a submerged pump.
      2) One (1) 24-inch tight-bolt manway with one (1) 8-inch emergency vent port and emergency vent valve.
      3) One (1) 2-inch working vent port with riser pipe and pressure/vacuum vent valve.
      4) One (1) 2-inch port for mechanical gauge.
      5) One (1) 2-inch electronic level gauge.
      6) One (1) 3-inch fill port with anti-siphon holes in drop tube.
      7) One (1) 2-inch spare port with striker plates and tight-fill adapter and lockable cap.
      8) One (1) 4-inch spare port with pipe plug.
      9) Two (2) 2-inch spare port with striker plate and pipe plug.
   e. The 1,000 gallon primary tank shall be fitted with the following:
      1) One (1) 2-inch Fill Port.
      2) One (1) 2-inch Working Vent Port.
      3) One (1) 4-inch Emergency Vent Port.
      4) One (1) 2-inch Liquid Gauging Port.
      5) One (1) 2-inch Port for Dispensing Pump.
      6) One (1) 4-inch Phase I Vapor Recovery Port.
      7) One (1) 7 gallon Spill Containment Tank with Lockable Lid and Drain Port to the primary tank.
   f. The 4,000 gallon AST will store heating oil and will be have fill and vent ports as recommended by the manufacturer.
   g. All fittings shall be threaded NPT risers and supplied with thread protectors and shall be located above the liquid storage level.
   h. The primary tanks shall be pressure-tested in accordance with UL-142 (minimum 3 to maximum 5 psi) at the factory, and shall also be field tested by the Contractor to a maximum 3 psi or as specified by the tank manufacturer.
   i. The primary tanks shall secure the interstitial barrier material to ensure UL certified protection.

3. *Secondary Leak Containment Tank*:
   a. The secondary tanks shall provide complete containment for the primary tanks.

b. In addition to openings for all ports in the primary tanks, each secondary tank shall be fitted with the following:
    a) Two (2) 2-inch port for interstitial probe.
    b) One (1) 8-inch emergency vent port.
    c) One (1) 2-inch spare port with pipe plug.
c. The port openings in the top of the secondary tanks shall be constructed with continuous penetration welds to prevent moisture from seeping between the fire protection material and secondary and primary tanks.
d. The top of the secondary tanks shall be sloped so that water will not accumulate on top of the tanks.
e. The secondary tanks shall be pressure-tested liquid-tight in accordance with UL-142 (minimum 3 to maximum 5 psi) at the factory, and shall also be field tested by the Contractor to a maximum 3 psi or as specified by the tank manufacturer.
f. The exterior surface of the secondary tanks shall be coated with a corrosion-resistant fiber-clad finish such as "Fibervault" by Hoover or approved equal. The total dry thickness shall be a minimum of 1/8-inch. Finish color shall be desert sand.

4. *Fire Protection*:
    a. The fire protection material shall be a minimum of three (3) inches of porous, lightweight monolithic thermal insulation material or lightweight concrete and shall be installed at the factory within the interstitial space between the inner and outer wall. Thermal insulating material:
        1) Shall be in accordance with ASTM C-332 and C-495.
        2) Shall be designed and tested to provide 2 hour fire protection for the primary tank as per U.L. 2085 2-hour furnace fire test and 2 hour simulated pool fire test.
        3) Shall allow liquid to migrate through it to the monitoring point.
        4) Shall not be exposed to weathering and shall be protected by the steel secondary containment outer wall.
        5) Shall provide a minimum of a R-10 insulating factor.
    b. The tank supplier shall certify that the primary and secondary containment do not leak, and that the fire protection material regains its minimum 2-hour protection.

5. *Miscellaneous*:

Two (2) tank fill systems shall be provided on the 8,000 gallon tank and one on the 1,000 gallon tank. Each system shall be side-mounted on the tank at locations as shown on the Contract Drawings. The fill connections shall be accessible from ground height without the need for stairways or ladders. The system shall be suitable for use with low pressure hose delivery and have suitable fixtures and valves to prevent spillage and shall include the following:

a) Weatherproof, lockable box with 7-gallons spill container, constructed of cast iron steel.

b) Quick disconnect hose coupling with dust plug.
c) Hand pump for spill containment rated for 1 gallon per minute, with shutoff and check valve.
d) Check valve.
e) Shutoff valve.
f) Dust cover.
g) 6-inch standard face, visible level gauge.
h) Drain port.
i) Fittings size shall be 3-inch.
j) Product color coding per API 1637.
k) Acceptable manufacturers:
    i. FuelPort manufactured by Simplex, Inc.
    ii. Franklin Fueling Systems.
    iii. OPW Engineered Systems.
    iv. Or approved equal.
l) Fill-pipe adaptors shall be provided for filling of fuel into the storage tanks. The adaptor material shall be corrosion resistant material. The o-ring seals for the swivel adaptor shall be made of Viton or Buna-N. The adaptor shall be provided with a nitrile gasket to provide a secure seal with the drop tube fill pipe.

    1) Acceptable manufacturers:
        1. Franklin Fueling Systems.
        2. OPW Engineered Systems.
        3. Or approved equal.

m) A 3-inch drop tubes shall be provided to direct the flow of fuel towards the bottom of the tank. The drop tube shall have a 0.062-inch thick wall for improved durability. The drop tube shall be cut to length and chamfered in the field. The drop tube shall be furnished with a 3/8-inch breather hole located within three inches of the top of the tank. The bottom of the drop tube shall be within six inches of the bottom of the tank.
    1) Acceptable manufacturers:
        1. Model number 782-204-32 manufactured by Franklin Fueling Systems.
        2. OPW Engineered Systems.
        3. Or approved equal.
n) All piping for unleaded gasoline shall be carbon steel and shall be coated with corrosion protective coating. All piping for E-85 fuel shall be stainless steel Exterior coating shall be the same as tank. Hangers, supports and accessories used shall be applied in accordance with the manufacturer's recommendation for type of service and application and in accordance with MSS SP-69-2003. All hangers, supports, and accessories shall be galvanized.

o) Isolation ball valves shall be provided at locations as shown on the Contract Drawings. Ball valves shall be full port with an open-close arm and a quick quarter turn handle. Ball valves shall be constructed of materials compatible with gasoline and diesel and shall be UL-842 listed.

p) All unused/spare tank openings shall be properly sealed using threaded pipe plugs, flanges or caps, using compatible thread sealant materials.

q) The secondary tanks shall have two (2) 2-inch monitoring ports including a tube which provides a means for installing a sensor to detect product leakage from the primary tank into the dry interstitial space. This design shall be listed under UL-2085.
   1. Tank leak-detection and monitoring system shall include interstitial sensors, and the new Veeder-Root TLS-350 PLUS ATG to monitor leaks in inner walls.
   2. The design shall include any fittings and devices required for testing.
   3. The tank monitor shall be capable of detecting a breach in the inner tank.
   4. The leak detection performance of the liquid monitoring system shall be tested and verified to detect leaks.
   5. Acceptable manufacturers:
      i. Model 7943904XX manufactured by Veeder-Root; a Danaher Corporation Company.
      ii. Or approved equal.

r) Level transmitter shall be a magneto-restrictive probe to provide accurate readings of tank level to the new ATG.
   i The design shall include fittings and devices required for testing.
   ii Controls: The probe shall provide product level and temperature, water level, and over fill alarm.
   iii Acceptable manufacturers:
      1. Probe p/n 846391-3XX manufactured by Veeder-Root; a Danaher Corporation Company.
      2. Or approved equal.

s) The tanks shall be delivered as a complete UL-listed assembly with factory supplied lifting lugs at balancing points to facilitate handling and installation, and welded-on supports to be set level on a solid foundation. The supports should meet Seismic Zone 4 rating.

6. *Overfill Protection:* Overfill protection shall be provided by the following methods: a) direct reading level gauge visible from fill pipe access; b) valve rated for pressurized delivery located within fill pipe to close automatically at 95% full level; c) high level alarm.

7. *Signage:* Tanks shall be marked on all sides as per state and local codes. Signs will be recessed in concrete exterior to insure against damage during off-loading, refilling or general functions.

8. *Venting:* Tank system shall include a 2" atmospheric vent and emergency venting in accordance with N.F.P.A. 30.

9. The fueling system shall be designed to meet or exceed the minimum requirements of NFPA Sections 30 and 30A, the UFC, and the NEC.

10. Tank dimensions:

    a. 8,000 Gallon Tank Design Criteria:
        i. Tank storage volume: 8,000 gallons
        ii. Maximum tank maximum dimensions: 8'-4" wide by 8'-10" high by 23'-6" long.
        iii. The tank shall be split internally to provide storage for 2,000 gallons of diesel fuel and 6,000 gallons of unleaded gasoline. An air gap shall separate the two storage compartments.
        iv. Tank shall include 4 dispensers and 4 card readers (2 for diesel and 2 for gasoline) mounted where shown on the plans.

    b. 1,000 Gallon Tank Design Criteria:
        i. Tank storage volume: 1,000 gallons
        ii. Maximum tank maximum dimensions: 5'-6" wide by 4'-8" high by 11'-6" long.
        iii. Tank shall be designed to store 1,000 gallons of E-85 ethanol/gas fuel.
        iv. Tank shall include 1 dispenser and one card reader.

    c. 4,000 Gallon Tank Design Criteria:
        i. Total tank storage volume: 4,000 gallons.
        ii. Maximum tank maximum dimensions: 8'-4" wide by 8'-10" high by 17'-10" long.
        iii. Tank shall be designed to store 4,000 gallons of heating oil.

Note: The fuel tank foundation slab design and dimensions shown on the Drawings are based on the tank dimensions and weights shown in Part 2.A. 10. a, b, and c above . Other tank sizes and weights will be considered for approval by the Maryland Transportation Authority. If alternate tank sizes/weights are proposed by the successful Bidder, the foundation slab design may need to be modified to accommodate the tank size/weight. Following award of the construction contract, the successful Bidder shall submit shop drawings showing the necessary revisions to the slab foundation design, and other necessary changes, if any, signed by a registered PE in the State of Maryland, for approval by the Maryland Transportation Authority. All costs due to the approved revisions shall be the responsibility of the Contractor.

B. SUBMERSIBLE TURBINE FUEL PUMPS

1. Pumps:

a. Description: Provide a total of four (4) UL-listed ¾ hp submersible turbine pumps for the gasoline and diesel tank (one pump for each dispenser) and a single UL-listed 1/3 hp submersible turbine pump for the E-85 tank.

b. The entire pumping assemblies shall have UL listing and shall meet all requirements of UL-79. The entire pumping assembly for the E-85 fuel shall have UL listing for use with E-85 fuel.

c. Pumps shall be multi-stage, self-lubricating, and easily removed from tank without disconnecting discharge piping, mechanical or electronic leak detectors, or siphon

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BID/PROPOSAL FORM

Contract No. **BB 2042-000-002**

Bid/Proposal Of _____
(Name)

_____
(Address)

_____
(Phone Number)

To furnish and deliver all materials and to perform all work in accordance with the Specifications and the other Contract Documents except as specifically stated otherwise in the Special Provisions relating to Contract No. **BB 2042-000-002** for **Bay Bridge Facilities Fuel Tank Replacements** as defined in the Special Provisions on which bids/proposal will be received until twelve (12) Noon on the **30th of March 2010** in the Bid Box of the Maryland Transportation Authority's Division of Procurement and Statuary Program Compliance, Building 300, 1st floor, located at the Francis Scott Key Bridge, Baltimore, MD.

Bids will be opened publicly at 12:00 Noon on the Bid Date in the Engineering Conference Room of the Transportation Authority which is located in the 1st floor of the 300 Authority Drive, Baltimore, MD 21222.

To the Maryland Transportation Authority, Baltimore, Maryland:

In accordance with the published "Notice to Contractors" of the Maryland Transportation Authority, inviting proposals for the work; identified above, I/We certify; that I/We am/are the only person or persons interested in this Proposal as principals; that it is made without collusion with any person, firm or corporation; that an examination has been made of the Contract Documents and of the work site; that I/We certify have the equipment, labor, supervision and financial capacity to perform this contract either with my/our organization or with subcontractors; that I/We propose to furnish all necessary machinery, equipment, tools, labor and other means of construction and to furnish all materials specified in the manner and at the time prescribed; that I/We understand that the quantities of work as indicated herein are to be determined by me/us; that I/We further understand that all work required by this contract is to be performed in accordance with the following Schedule of Prices.